

Appl. No. : 10/807,643
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AMENDMENTS TO THE CLAIMS

Claims 1 through 22 (Cancelled)

23. **(Currently Amended)** A prosthesis for placement at an os opening from a main body lumen to a branch body lumen; the main body lumen having a main vessel wall with a portion of the main vessel wall opposing the os, said prosthesis comprising: a radially expandible scaffold having at least a first wall pattern; and at least two circumferential anchors extending axially from an end of the scaffold, said anchors ~~adapted~~ having sufficient length to extend axially into and expandably circumscribe ~~at least one-half of the main vessel wall~~ and reach the portion of the main vessel wall opposing the os when the scaffold is implanted in the branch lumen with said one end adjacent the os, said prosthesis additionally having a region with a second wall pattern that is different from the first wall pattern, said second wall pattern permitting the anchors to both bend and rotate relative to the prosthesis.

24. **(Previously Presented)** A prosthesis as in Claim 23, comprising at least three circumferential anchors extending axially from the end of the scaffold.

25. **(Previously Presented)** A prosthesis as in Claim 23, wherein the anchors have an axial length which is at least 1.5 times the width of the scaffold prior to radial expansion.

26. **(Previously Presented)** A prosthesis as in Claim 23, wherein the anchors have an axial length of at least 2 mm.

27. **(Previously Presented)** A prosthesis as in Claim 23, wherein the scaffold comprises a plurality of axially adjacent cells.

28. **(Previously Presented)** A prosthesis as in Claim 23, wherein the circumferential anchors are all congruent.

29. **(Previously Presented)** A prosthesis as in Claim 23, wherein the circumferential anchors will radially expand when the scaffold is radially expanded.

30. **(Previously Presented)** A prosthesis as in Claim 23, further comprising a radiopaque marker at or near the region with the second wall pattern.

31. **(Previously Presented)** A prosthesis as in Claim 23, mounted on a balloon wherein the balloon has a radiopaque marker aligned with the region between the scaffold and the circumferential anchors.

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32. **(Currently Amended)** A method for deploying a prosthesis across an Os opening from a main lumen to a branch lumen, the main body lumen having a main vessel wall with a portion of the main vessel wall opposing the os, said method comprising: positioning a first prosthesis so that a scaffold lies within the branch lumen and at least two circumferential anchors extend into the main lumen; radially expanding the scaffold to implant said scaffold in the branch lumen; circumferentially deforming the anchors such that at least one of said anchors bends and rotates relative to the prosthesis, and has sufficient length to reach the portion of the main vessel wall opposing the os, said deforming causing the anchors to circumscribe at least a portion of the main lumen wall and open a passage through the anchors; and deploying a second prosthesis within the passage through the anchors.

33. **(Previously Presented)** A method as in Claim 32, wherein at least three circumferential anchors extend into the main lumen.

34. **(Previously Presented)** A method as in Claim 32, wherein positioning the first prosthesis comprises aligning a visible marker on at least one of the prosthesis and a delivery balloon with the Os.

35. **(Previously Presented)** A method as in Claim 32, wherein the lumens are blood vessels.

36. **(Previously Presented)** A method as in Claim 32, wherein the scaffold is expanded with a balloon expanded within the scaffold.

37. **(Previously Presented)** A method as in Claim 36, wherein the anchors are deformed by expanding a balloon positioned transversely through the anchors.

38. **(Previously Presented)** A method as in Claim 37, wherein the scaffold and anchors are expanded and deformed by the same balloon.

39. **(Previously Presented)** A method as in Claim 37, wherein the scaffold and anchors are expanded and deformed by different balloons.

40. **(Previously Presented)** A method as in Claim 32, wherein the second prosthesis is deployed by a balloon catheter exchanged over a guidewire pre-positioned for deformation of the anchors.

41. **(Previously Presented)** A method as in Claim 32, wherein the anchors are deformed by deployment of the second prosthesis.

42. (Previously Presented) A method as in Claim 32, wherein the deployed second prosthesis supports the anchors over their lengths from the Os over the main lumen wall.
43. (New) A prosthesis as in Claim 23, mounted on a balloon catheter.
44. (New) A prosthesis as in Claim 23, wherein the anchors have an axial length of at least 6 mm.
45. (New) A prosthesis as in Claim 23, comprising at least five anchors.
46. (New) A prosthesis for placement at an os opening from a main body lumen to a branch body lumen, the main body lumen having a main vessel wall with a portion of the main vessel wall opposing the os, said prosthesis comprising: a radially expansible scaffold having at least a first wall pattern; and at least one anchor extending from an end of the scaffold, said anchor having a length sufficient to circumscribe the main vessel wall and reach the portion of the main vessel wall opposing the os when the scaffold is implanted in the branch lumen with said one end adjacent the os.
47. (New) A prosthesis as in Claim 46, wherein the anchor extends helically from the scaffold.
48. (New) A prosthesis as in Claim 46, wherein the anchor has a length of at least 6 mm.
49. (New) A prosthesis as in Claim 46, comprising at least three anchors.
50. (New) A prosthesis as in Claim 46, comprising at least five anchors.
51. (New) A prosthesis as in Claim 48, comprising at least three anchors.
52. (New) A prosthesis as in Claim 47, additionally comprising a radiopaque marker.
53. (New) A prosthesis as in Claim 46, additionally comprising a radiopaque marker.
54. (New) A prosthesis as in Claim 46, mounted on a balloon catheter.
55. (New) A prosthesis as in Claim 47, mounted on a balloon catheter.
56. (New) A method for deploying a prosthesis across an Os opening from a main lumen to a branch lumen, the main body lumen having a main vessel wall with a portion of the main vessel wall opposing the os, said method comprising: positioning a first prosthesis so that a scaffold lies within the branch lumen and at least two anchors extend into the main lumen; radially expanding the scaffold to implant said scaffold in the branch lumen; circumferentially

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deforming the anchors such that at least one of said anchors extends along the main vessel wall a sufficient distance to reach the portion of the main vessel wall opposing the os.

57. (New) A method of positioning a prosthesis across the ostium opening between a main vessel and a branch vessel, the main vessel extending in both an upstream direction and a downstream direction from the ostium, comprising the steps of:

providing a radially expandable scaffold, having a first end and a second end and at least three anchors extending from the first end; and

positioning the prosthesis such that the scaffold is within the branch vessel and the anchors extend along the wall of the main vessel and all point in an upstream direction.

58. (New) A method as in claim 57, comprising positioning the scaffold in the branch vessel using a first balloon catheter.

59. (New) A method as in Claim 58, comprising positioning the anchors against the wall of the main vessel using the first balloon catheter.

60. (New) A method as in Claim 58, comprising positioning the anchors against the wall of the main vessel using a second balloon catheter.

61. (New) A method as in Claim 57, comprising entrapping the anchors against the wall of the main vessel using a main vessel stent.